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ON THE RELATIONS OF ETHNOLOGY TO OTHER BRANCHES OF KNOWLEDGE.

By J. C. PRICHARD, M.D., F.R.S.,
Corresponding Member of the Institute of France, &c., &c., &c.

Delivered at the Anniversary Meeting, 22d June 1847.

The anniversary address delivered at the last meeting of this Society by our late excellent President Sir Charles Malcolm, gave so lucid and extensive a survey of the recent progress of Ethnology, that I should find little to offer on the present occasion, were I to follow the same path. The achievements of one year, taken by themselves, would appear fragmentary, and without results. It has, however, occurred to me, that there is a different course by which I may hope to fulfil the task allotted to me more to the satisfaction of the Society. The idea has been suggested to me by a proposal made lately to the British Association for the Advancement of Science, to appoint in that Society a distinct Section for the Cultivation of Ethnology.† In some parts of the Continent, and in the United States of America, societies have for some time existed exclusively devoted to this pursuit, and supported by men highly distinguished in science and literature. In the meetings of the British Association alone, Ethnology claims but a subordinate place in the Section of Natural History. The reason assigned for this arrangement is, that the natural history of man is a part of the natural history of living creatures, and that there is an obvious propriety in referring to one division the history of all organised beings, namely, of all those beings which exist in successive generations, destined one after another to rise, flourish, and decay—a lot to which are alike subjected the lords of the creation, and the worms on which they tread—and the plants and animals which they consume for their daily food. But though the natural history of man may, in a technical ar-

† This proposal was made at the meeting of the Association at York by Dr King, secretary of the Ethnological and Statistical Societies. It was negatived by the Committee of the Association.

rangement, be made a department of zoology, it is easy to shew that the main purport of ethnological inquiries is one distinct from zoology; and the reference of both these subjects to one section of the British Association can only have arisen from inadvertence. Of this I shall be able to convince the members of the Society now present, if they will allow me to call their attention for a brief space to the position which Ethnology ought to hold, and which it is destined hereafter to maintain, among the various divisions of human knowledge.

Ethnology is the history of human races, or of the various tribes of men who constitute the population of the world. It comprehends all that can be learned as to their origin and relations to each other. It is distinct from natural history, inasmuch as the object of its investigations is not *what is*, but *what has been*. Natural history is an account of the phenomena which Nature at present displays. It relates to processes ever going on, and to effects repeated, and to be repeated, so long as the powers of Nature, or the properties of material agents, remain unchanged. Ethnology refers to the past. It traces the history of human families from the most remote times that are within the reach of investigation, inquires into their mutual relations, and endeavours to arrive at conclusions, either probable or certain, as to the question of their affinity or diversity of origin. All this rather belongs to archæology than to natural history. It may, indeed, be truly said that the investigations, by means of which we endeavour to arrive at conclusions in Ethnology, involve many topics which are within the province of natural history. The facts and analogies which natural history presents, are the data on which a great part of the proofs or arguments adopted by the ethnologist are founded. But these contributions of natural history are only a part of the resources by the aid of which we carry on the investigations belonging to our favourite pursuit; and we shall find that it borrows fully as much from other departments of knowledge, quite separate from the study of Nature and her productions. The results at which the ethnologist arrives, do not fall within any department of natural history. They are archæo-

logical or historical. It may then be admitted, that there are some grounds for the opinion of those who would even deny us any place in the great system of scientific inquiries, which the British Association has established,

We are saved from apprehension as to the consequence of this admission, by remarking, that Ethnology stands exactly on the same ground, in this point of view, as one of the most popular of the studies which are cultivated at the British Association; and that it is impossible, with any shew of reason, to deny a place to one of these sciences in the arrangement of sections, without refusing the claims of the other. By comparing the position of ethnology to that of geology, we shall be enabled to survey, in a clear point of view, the relations of each of these sciences to other branches of knowledge.

Geology, as every one knows, is not an account of what Nature produces in the present day, but of what it has long ago produced. It is an investigation of the changes which the surface of our planet has undergone in ages long since past. The facts on which the inferences of geology are founded, are collected from various parts of natural history. The student of geology inquires into the processes of Nature which are at present going on, but this is for the purpose of applying the knowledge so acquired to an investigation of what happened in past times, and of tracing, in the different layers of the earth's crust—displaying, as they do, relics of various forms of organic life—the series of the repeated creations which have taken place. This investigation evidently belongs to *History* or *Archæology*, rather than to what is generally termed *Natural History*. By a learned writer, whose name will ever be connected with the annals of the British Association,* the term Palæontology has been aptly applied to sciences of this department, for which Physical Archæology may be used as a synonym. Palæontology includes both Geology and Ethnology. Geology is the archæology of the globe—ethnology that of its human inhabitants. Both of these sciences derive the data on which they found conclusions from the different departments of natural history. But

* The Rev. Dr Whewell.

ethnology likewise obtains resources for pursuing the investigation of the history of nations and of mankind from many other quarters. It derives information from the works of ancient historians, and still more extensively from the history of languages and their affiliations. The history of languages, indeed, greatly extended as it has been in late times, has furnished unexpected resources to ethnology, which could hardly have advanced a few steps without such aid. As geology would have been a barren and uninteresting study, and uncertain in most of its results, without the aids which the study of organic remains has unexpectedly brought, serving often to identify geological formations, and to connect particular series of rocks with periods in the world's history; so the discoveries of Glossology have enabled us to trace alliances between nations scattered over distant regions of the earth, of whose relation to each other we never should have had an idea without such evidence.

I shall now endeavour to point out, in a brief and cursory manner, what assistance each department of knowledge has contributed to the cultivation of ethnology. But here I must crave the indulgence of those who are conversant with the history and progress of this science, since I shall not be able to accomplish the task proposed without saying much that must to such persons be already well known and familiar.

I. The branches of natural history and science which furnish aids in the promotion of ethnology, are anatomy, physiology, zoology, and physical geography.

The first attempt that deserves notice to distinguish races of men was made by Camper, an anatomist. The distinction adopted by Camper is well known. It is founded on the shape of the skull. It is the facial angle, or the measurement of the angle included between two lines, one of which is drawn from the passage of the ear to the basis of the nose; and the other a line slanting off from the forehead to the mouth, or rather to the most advanced point of the upper jawbone. This angle was thought to afford a measure of the capacity of the anterior part of the skull, and of the size of the corresponding portion of the brain. Camper, who had within his reach very few skulls for examination, thought that he found this angle of different extent in different classes of human

heads. He found that skulls of Europeans, when thus measured, gave an angle of 80° , the skull of a Kalmuck one of 75° , and the skull of a Negro one of 70° only. There are forms of the head in which the angle has been found to be greater than in the European, and others in which it is less than in the Negro. Those which have it greater than in the European, and in which it amounts to 90° , are the ideal heads of Grecian gods, forms not existing in nature; and the skulls in which this angle is less than in the Negro, are those of apes. In these last, the angle was estimated by Camper at 64° , 63° , or 60° . Camper accordingly thought that he found in the skulls of negroes a type intermediate between the cranium of the European man and that of the Orang. But in this he was mistaken. The supposed gradation exists only when skulls are compared which have the infantine form, or before the first dentition is complete. After the period of the first dentition, the difference in the facial angle in the heads of apes, and in those human skulls in which it is of the smallest measurement, becomes enormous. In the adult troglodyte it is 35° , and in the orang or satyr it is only 30° , as we learn from the observations of Professor Owen.

Professor Blumenbach was, in reality, the founder of ethnology. He was the first person who made any considerable collection of human skulls, or possessed the materials requisite for an inquiry into the anatomical differences which exist in various tribes of men. Blumenbach divided the forms of the human head into five departments. He designated them, not as it would perhaps have been better to have done in the first instance, by epithets descriptive of forms, but by the names of the races of people to which they belonged, or of the regions of the world whence these races were supposed to have originated. The Caucasian form was so termed from Mount Caucasus, to which Blumenbach observed that ancient traditions refer the origin of many celebrated nations. He supposed this to be the primitive type of the human skull, and regarded the other forms as so many degenerations from it. These were the Mongolian, the American, the Ethiopian, and the Malayan. The five forms were supposed to belong to five divisions of mankind, comprising

collectively the whole human family. This distribution was complete as far as the ethnographical knowledge of the time allowed it to be ; but it would be necessary in the present day to enumerate many additional varieties in the shape of the skull, and to constitute additional human races, if we would follow the same method, and adapt it to the actual state of our acquaintance with distant regions of the earth and their inhabitants. For example, besides the Ethiopian race of Blumenbach, by which he meant the Negroes, we must reckon in Africa two other woolly-haired races, each having a form of the head different from the Ethiopian type of Blumenbach. I allude to the Kafir and Hottentot races. Again, among the nations termed collectively by Blumenbach the Malayan race, meaning the native people of all the islands of the Great Southern Ocean, we now distinguish several different forms which have little or nothing in common, and appear to belong to several distinct races. Among these are the Papuas, who resemble the Negroes in many respects, but have skulls of a form very different from any of the African nations, and the Australians having a peculiar type, and forming a very distinct race. The Polynesians are not so distinct in the form of their heads as Blumenbach supposed the Malayan race to be ; and the true Malays approach in features, and apparently in their general physical character, to the other native races of the Indo-Chinese peninsula, who are described as nearly resembling the Chinese, and who probably belong to the class of nations termed by Blumenbach Mongolian. Blumenbach's delineations of skulls are admirable, and his descriptions of the forms which appeared to him the most prevalent and the most constant, are invaluable. There is, however, one very important view of the shape of the head which he seems to have overlooked ; I allude to the form of the basis of the skull. The importance of this view of the cranium in comparing the heads of the human species and those of apes, in which it displays the immense difference between them in a very striking manner, was first pointed out by Professor Owen. It is a character by no means to be neglected in the comparison of human races with each other.

The latest scheme devised for the classification of human skulls, and the distribution of human races according to their forms, is that proposed by Professor Retzius of Stockholm, a very ingenious and able anatomist, and a very estimable man, who has lately devoted his talents to this subject. Professor Retzius' researches are well known, and I shall not occupy the time of the Society by stating to them his results. They are particularly interesting in one point of view, probably not contemplated by the excellent author. I allude to the fact, that he seems to have established distinctions in the form of the skull among nations, who, though for many ages separate, are known, if I am not mistaken, historically, to have descended from the same original stock.

The head is not the only part of the body which displays different forms in different human tribes. Varieties in stature and in the proportion of limbs—in the form of the pelvis and other parts of the body—as well as in the texture of the skin, the hair, and other structures, are well known to distinguish races from each other. With respect to all these differences, anatomical researches have been made which have an obvious bearing on ethnology.

When we advert to the resources which physiology affords for the cultivation of ethnological science, we find that there are many relations between these studies. One series of inquiries is, whether the great laws of the animal economy are the same in respect to all human races; whether any particular race differs from others in regard to the duration of life, and the different periodical changes of constitution, and, generally speaking, in the laws of the animal economy, and whether such diversities, if found to exist, can be explained by reference to external causes, or imply original difference, and form, therefore, specific characters. Another physiological inquiry connected with ethnology is, whether variations of form, colour, &c., can be explained by reference to any known principle, and how far, and under what conditions, they are transmitted to posterity, and may tend to account for the origination of particular breeds or tribes marked by some hereditary and permanent characters?

Zoology and the whole study of natural history opens a

field to several inquiries highly interesting to the ethnologist.

We must take an account, for example, of the varieties of form and organization to which the different species of animals are subject, in order to solve the question, Whether the differences observed in human races, and the physical characters of any particular race, belong to the category of natural varieties, or indicate an entire distinction which must have existed from the creation, and therefore proves the species to be separate?

Another question connected with zoology has been made a matter of great moment in these investigations. I allude to the theory of Hybridity, or to the general observations made with respect to mixed breeds and their supposed sterility. The bearing of these questions on the physical history of mankind is very obvious. I shall not enlarge upon it at present.

Physical geography has a very obvious bearing on ethnology, since physical geography comprises the localization of those agencies of climate which are supposed to modify the organization of living tribes, and which oppose limits to the sphere of their existence. We may observe, in connection with this subject, that great numbers of species, both animal and vegetable, are only to be found within certain latitudes, and in particular regions of temperature, and under particular local conditions. Those tribes in the animal kingdom which approach the human form, viz., the apes, are confined by nature to very narrow limits, while men live in all climates. This striking difference suggests several inquiries as to its causes, which have a bearing on physical geography.

One series of facts connected with physical geography, and likewise bearing on ethnology, comprises the effects produced upon climate by elevation of the surface of the earth. It is well known that, in the ascent of mountains, changes of climate and of vegetation are perceived, analogous to those observed in passing from a lower to a higher latitude. Plants of the frigid zone reappear in equatorial countries near the summits of Alpine mountains. An inquiry is suggested, how far this may tend to explain the phenomenon, that the

xanthous, or very fair complexion, with red hair and blue eyes, is often seen in the inhabitants of alpine regions. For example, if we begin from the eastern parts of the world, we find xanthous people on the Himalaya, in the Hindu families who reside near the sources of the sacred rivers at Jumnotri and Gangotri. Even the Rajpoots in Rajast'han, are known to be much fairer than the people of lower plains in Bengal and elsewhere. Passing the Indus, we find the Eusofzyes in the high tracts of Afghanistan, a fair xanthous people, while the Ghiljis of the lower country are dark, and the Jauts of the plain of the Indus nearly black. Then, again, we find on the high mountains of Hindu-Khu that curious people the Siah Posh, who speak a dialect allied to the Sanskrit, and are supposed by Bopp and Ritter, and other learned men, to be descendants from the ancient Brahman race who conquered India some thousands of years ago, and probably left these people behind them in Central Asia. Far westward in Arabia, according to Bruce, a similar phenomenon is displayed among the inhabitants of the cold mountains of Raddhua; and in Africa, the Kabyles, the natives of Mount Aurasius, behind Tunis and Algiers, are so fair, and red-haired, that they have been conjectured, without a shadow of proof, to be descendants of the ancient Vandals, as if it were possible for Vandals to have made their way to the tops of all the mountains in the world. Even in America, among the Ioways, and other tribes inhabiting the Rocky Mountains, similar facts have been observed. The rationale of this phenomenon is plainly connected with the physical conditions of so many mountainous regions. It admits a comparison with changes of complexion, discovered as we proceed from the country of black races under the equator, to that of the fair people of Northern Europe.

Another observation to which I shall briefly advert, will serve to indicate the bearing which researches in physical geography may possibly have upon the studies of the ethnologist. The phenomena of vegetation probably indicate conditions of climate which are inappreciable by thermometers, hygrometers, and all our instruments; and when we advert to the fact illustrated by that great botanist Mr Robert

Brown, that the equatorial distribution of the great families of plants is extended to a considerable degree through the Southern Hemisphere, or that the Austral regions approximate much more to the equatorial in this leading character of vegetation than the northern climates of corresponding latitude, we are at liberty to infer, that the sum-total of those agencies of climate which affect organized beings is much more similar to that which exists under the equinoctial line in these countries than in the northern latitudes. I shall merely mention this conclusion in connection with the well-known fact, that the varieties of the human race which exist in the great southern continents, have much greater resemblance to the tribes who are natives of the torrid zone, than any of the aboriginal people inhabiting the northern parts of the world.

I have now gone over the branches of natural science which principally give assistance to students of ethnology, and it remains for me to make some remarks on the resources which history and archæology may be expected to furnish in aid of the same inquiries.

When we speak of historical inquiries as contributing to the promotion of ethnology, the meaning of the expression is not limited to information to be collected from historians. Much, indeed, is to be found in the works of such writers as Herodotus, Aristotle, Diodorus, Cæsar, Pliny, Strabo, and Tacitus, that is useful for investigating the history of those nations in Europe and Asia, which came within the knowledge of the Greeks and Romans; but all such information would be not only confined, but disjointed and fragmentary, without some more comprehensive method of investigation that may serve to bring the notices scattered through ancient writers, into a distinct and evident connection with the history of people actually known to us. Historical researches that may be applicable to ethnology, must occupy a wide field. They must collect all the different lights that can be brought to bear on the history of nations, whether from the testimony of ancient writers, or from manners, customs, and institutions—from old popular traditions, poetry, mythology—from the remains of ancient art, such as architecture, sculpture

inscriptions—and from sepulchral relics discovered in many countries, consisting of embalmed bodies, or more often the mere skulls and skeletons of the ancient inhabitants, which furnish the most authentic testimony, where it can be procured, as to the physical characters of various races of people. Besides all these, there is another source of information more extensively available than any of them ; I allude to the history of languages and their affinities.

The history of mankind is not destined, like the facts on which geology is built, to be dug out of the bowels of the earth, though some of the ancients thought otherwise, if we may judge from the abundance of sculptures and inscriptions with which they covered the sides of caverns and excavations. Curious documents have, however, occasionally been discovered in various countries beneath the soil, which have brought evidence of historical facts otherwise unknown. We may allude, for example, to the great collections of silver money of the coinage of the early caliphs of Bagdad, which have been dug up in various places on the shores of the Baltic, marking out the path of an extensive traffic between the East and North, at a time when the northern people of Europe are generally supposed to have been in a state of extreme barbarism. But the discoveries most interesting in relation to ethnology are those of sepulchral remains, which, in various regions of the world, have preserved the most authentic records of the physical characters and the state of arts that belonged to many ancient races. I need hardly allude to the discoveries in the Egyptian Thebaid,—a vast sepulchre, where the successive generations of thirty centuries lie embalmed beneath their dry preserving soil, expecting vainly the fatal time, now long since passed, when they were to be summoned before the tribunal of Sarapis. Another African race exists only in mummies. I allude to the insular Guanches, the ancient inhabitants of the Fortunate Islands, who now, falsifying this name, exist only in the caverns of Teneriffe, or in the European museums to which they have been transported. Over vast wildernesses in the northern regions of Asia, along the banks of the Irtish, and beyond the remote Jenisei, innumerable tumuli are scattered, con-

taining the remains of ancient, and, perhaps, long extinct races of men; and it is a remarkable fact, that in this wintry region where living nature seems to struggle against the elements for a precarious existence, even the arts of decoration were studied in those times of yore, which witnessed the erection of these tombs. Implements of silver, gold, and copper, girdles of the precious metals, bracelets decked with pearls, and fragments of porcelain, have surprised the travellers who have seen a few of these tumuli excavated. Whole nations lie perhaps yet buried in these regions, and with them may be found some relics that may hereafter throw light upon their history. Similar tumuli spread over the north of Europe, contain the remains either of the same people, or of races more barbarous than the Asiatics. Hundreds of them have been rifled by treasure-hunters, or by mere antiquaries little more enlightened, who have sought to make collections of curiosities without any view to promote ethnology or history. Of late years, Eschricht, Nilsson, and Retzius, have attempted, in Denmark and Sweden, to identify in these remains the relics of different races, supposed to have inhabited the northern region of Europe in early times. Their example has been followed by Dr Wilde in Ireland, and more recently by MM. Eugène Robert, and Serres in France. It is too early to collect general results from these researches. I shall only observe, that, in the opinion of the learned Swedes who have devoted themselves to the investigation, the sepulchral remains of northern Europe belong to three different eras. They display three different physical types, and three successive stages of advancement in art and civilization. The oldest are the relics of a people with round heads, having the transverse diameter of the cranium large in proportion to the longitudinal. The implements and ornaments which are found in the tombs of these people, indicate the greatest rudeness of art. They consist of tools and the heads of lances and arrows made of stone and bone, but nothing indicating a knowledge of the use of metals. Whether these oldest sepulchres were the tombs of a Celtic race, is a question not yet decided. It seems to be the opinion of Professor Retzius, and of Nilsson, who has written a learned work on the Aborigines of

Scandinavia, that they were the burial-places of a people more ancient than the Celts. Similar remains discovered in France, are supposed by MM. Robert and Serres to have belonged to the Cymrian or Welsh branch of the Celtic race ; and these anatomists suppose a second class of heads of a larger shape, found in tombs containing metallic implements, to have been those of a people allied to the Irish or Gaelic branch. A third set of monumental relics are referred by Retzius to a superior race, supposed to have been Swedes or Saxons, or some branch of the Teutonic family.

It is much to be regretted that the ancient nations of Europe, those races from whom Englishmen, Germans, and Frenchmen are descended, despised the use of letters, and remained for centuries in intercourse with the cultivated Massilians, and with Roman colonies, without adopting this art ; and that all the sepulchral remains of the northern regions are without inscriptions, or a single name, until the comparatively late period of the Runes, that may be a clue to their various history. On the other hand, parts of Asia and Africa, now the seat of barbarism, are covered, if we may use the expression, with inscriptions. Numerous and long inscriptions scattered over all India on rocks, the sides of caves, and on various monuments, in Cabul, through the ancient empires of Iran and Assyria, through Hadramaut and Oman, the remotest districts of Arabia, and through the North of Africa, to say nothing of the more celebrated relics of Egypt, prove that the use of letters was well known in these countries at a time when Europe was barbarous. In all those countries inscriptions, which have been gazed at with stupid wonder by the descendants of the people who composed them, and have been regarded as the workmanship of genii and imps, have been at length read and explained for the first time after twenty centuries. All this has been done within a few years. The discovery began, as every one knows, with the deciphering of the Egyptian hieroglyphics. The efforts of Dr Young and Champollion gained the clue, unravelling mysteries in a field where it has been reserved for a distinguished scholar of the present day (the Chevalier Bunsen) to erect the edifice of the most ancient history

of the world,—a monument of the intelligence of modern Europe more exalted than the royal pomp of the Pyramids, whose real builders now, for the first time, come forth to our view after having been concealed in the rubbish of 4000 years. Scarcely less remarkable is the achievement of our illustrious countryman Mr Prinsep, in the East, who has read and interpreted the inscriptions spread over India and Afghanistan. It is a curious fact, that these most ancient records of the furthest East preserve not the victories of warriors, but the decrees of Buddhistical sovereigns, commanding throughout the provinces of their great empire the establishment of hospitals for the cure of men and brute animals. Many curious facts in history have been preserved by these inscriptions, and among others the extension of a Macedonian empire over a great part of India, and the conquest of the Island of Ceylon by a sovereign of Hindustan three centuries before the Christian era. Not less remarkable are the inscriptions cut in letters composed of wedge-shaped strokes which are spread through the empire of the great Cyrus, and have been lately read. These were engraved by the subjects of the Persian kings. Another set of these cuneiform inscriptions belonged to the older Assyrians and Babylonians. The clue to all these discoveries was obtained by Dr Grotefend, Lassen, and Burnouf; and by its aid our countryman, Major Rawlinson, has succeeded in reading the history of the Achæmenidæ engraven on their own monuments in a language which was doubtless spoken at the courts of Susa and Persepolis, but has not been heard since the overthrow of the last Darius. Even the old Assyrian inscriptions are now partially understood, and the name of Nebuchadnezzar has been found on the walls of his palaces.

Many ethnological facts may be collected from these inscriptions. I shall instance the supposed existence of the Affghans among the nations subject to Darius, and who, doubtless, contributed to form the armies that fought at Marathon and Thermopylæ. It would be curious to find the ancestors of Akhbar Khan among the invaders of Europe 2000 years ago.

The inscriptions spread through Arabia and Ethiopia will

probably throw light on the most ancient relations between Asia and Africa. We may expect to find in them the history of those queens of Ethiopia who reigned successively under the name of Candace, known to the generals of Augustus Cæsar, and one of whom is mentioned by St Luke the Evangelist.

I shall only refer to another set of inscriptions deciphered within a few years in several of the ancient Italic languages, by means of which we have gained some knowledge of the languages spoken in Italy before the ascendancy of Rome. They have afforded an ethnological result, which is also of some importance in relation to classical history. It seems from them that the old Italic nations, the Latins, the Umbrians, the Opici or Oscans, the Ausonians, the Siculians, the Samnites and Sabines, all the old Italic nations except the Tuscans, were not, as the older writers, Fréret, Larcher, and even as Niebuhr supposed, partly Celtic or other barbaric tribes, and partly Greeks, or at least Pelasgi, but a distinct and particular branch of the Indo-European family of nations, and that they all spoke dialects of one language, which may be termed the old Italic, and of which Latin is but one variety.

The most important aids to historical researches into the origin and affinity of nations is undoubtedly the analytical comparison of languages. This may be considered as almost a new department of knowledge, since, although long ago sketched out, and followed to a certain extent, it has been wonderfully augmented in recent times, and it is only in its later development that it comes to have any important relations with ethnology. Leibnitz is considered to have been its originator. The Adelungs, Vater, Klaproth, Bopp, Frederick Schlegel, and Jacob Grimm, have been among its most successful cultivators; and lastly, to William von Humboldt it owes its greatest extension and the character of a profound philosophical investigation. But it is not, in this point of view that I contemplate the results of philological researches. It is as an auxiliary to history, and as serving in many instances to extend, combine, and confirm historical evidence, that the comparison of languages contributes to the advancement of

ethnology. Great caution is, however, requisite when we attempt to draw inferences as to the relationship of nations from the resemblance or even identity of their language. We know that conquests, followed by permanent subjugation, have caused nations to lose their original languages and adopt those of their conquerors. The intercourse of traffic between neighbouring countries, the introduction of a new religion or of new habits of life, especially when rude and barbarous tribes have been brought into near connection with civilized ones, have given rise to great changes in the original idioms of nations, and have caused languages originally different to approximate. It is only when we have good reasons for believing that no contingent event has interfered to change the original speech of any particular race, or supplant it by the idiom of a different tribe, that we can be justified in founding on such ground an argument as to affinity in descent. Evidence may be collected on this point sometimes from historical facts, or from considerations founded on the known condition of particular nations. When we learn from history that two nations have been remotely separated from each other from a very distant age, and have never been brought into habits of intercourse, we may presume, that marks of affinity discovered in their languages can bear no other explanation than that of an original unity of descent. In other instances, phenomena are discoverable in languages themselves which enable us to determine whether traits of resemblance have been the effect of late intercourse between nations, or arose in the original development of their languages, and thus prove a common origin in the tribes of people who speak them. A careful analysis will often detect analogies of such kind as to afford undoubted evidence of primitive affinity between languages which have acquired in the lapse of time and the course of events great differences, and when each dialect has become unintelligible to people who speak another of the same stock. The investigation of affinity between languages has lately assumed the character of a scientific study, and when pursued with reference to certain general principles, has led to striking and important results. I shall briefly advert to some of

these principles which have not yet been stated, as far as I know, in a systematic manner.

It is the prevalent opinion of philologists, that the most extensive relations between languages and those which are the least liable to be effaced by time and foreign intercourse, are the fundamental principles of construction. Grammatical construction, comprehending the laws which govern the relations of words in sentences, appears to be very enduring and constant, since it extends to whole classes of languages which have few words in common, though it is supposed that they originally had more. But beyond this, there is a cognate character in words themselves which pervades the entire vocabulary of a whole family of languages, the words being formed in the same manner, and according to some artificial rule. This may be exemplified by the monosyllabic structure of the Chinese and Indo-Chinese languages, and by the principle of vocalic harmony pervading the languages of High Asia, to which I shall have occasion again to advert. Of grammatical analogy, or correspondence in the laws of inflection and construction, we have a specimen in the Aboriginal languages of the New World, whose structure is known to be very complicated and artificial, and at the same time common to all the idioms of America which have been examined.

Another example of a more definite character is afforded by the grammatical structure of the languages of High Asia and Great Tartary, and a still more striking one by that of the Indo-European idioms.

Connected with the subject of the formation of words is the remark, that in the various branches of particular families of languages which spring by gradual development from the same root, the elements of words, consonants and occasionally vowels, are found to undergo changes according to certain rules. Particular classes of consonants in one language are substituted for other classes in another language of the same family. One European idiom, for example, substitutes palatine letters for sibilants; another rejects them both, and substitutes labials in their place. When corresponding phenomena can be traced through a great part of the vocabulary of two languages, we recognise

a proof that the languages so related must have been derived from one root, the ramifications of which have been differently developed.

The existence of similar words in several languages, even when such resemblances are very numerous, does not, in all cases, afford proof that the languages in question belong to the same family, since intercourse between different nations often gives rise to the adoption of expressions by one tribe from the language of another, as the English have adopted a great many words from the French, and the Welsh a still greater number from the English. The question, whether a considerable number of common or similar words in two languages affords evidence of original connection between them, may be solved by adverting to the particular sorts of words which are found to resemble. Even when one nation has derived from another a considerable proportion of its entire stock of words, there often, and indeed generally, remains an indigenous or aboriginal vocabulary, if I may be allowed the expression, or a home-bred speech, consisting of such words as children learn in early infancy, and in the first development of their faculties. This domestic vocabulary consists of words of the first necessity, such as those denoting family relations, father, mother, child, brother, sister; *secondly*, words denoting parts of the body, and material objects, for which children have names; *thirdly*, personal pronouns, which are found to be amongst the most durable parts of language; *fourthly*, the numerals, especially the first *ten*; *fifthly*, verbs expressive of universal bodily acts, such as, to eat, drink, sleep, walk, talk, &c.; *sixthly*, names of domestic animals. As no human family was ever yet without its own stock of such words, and as they are never changed, within the narrow domestic circle, for other and strange words, they are almost indestructible possessions; and it is only among tribes who have been entirely broken up and enslaved, so that family relations have been destroyed, that this domestic language can have been wholly lost. Tribes and families spread abroad have preserved them for thousands of years, in a degree which has allowed an easy recognition of this sign of a common origin.

A second class of words, which are common to nations who had attained some degree of refinement before the era of their separation, consists of terms connected with simple arts, such as simple nations early acquire, as, to plough, to weave, to sew ; names of metals, of weapons, tools, articles of dress. It may be observed, that words of this class are often common to nations whose domestic vocabularies are different ; and, on the other hand, often different when the domestic vocabulary is nearly the same.

A careful investigation of the phenomena of resemblance or analogy, which discover themselves on comparing different languages, on the principles to which I have now adverted, will go far towards an elucidation of the question, whether such phenomena of resemblance belong to the primitive and original parts of language, and therefore prove a common origin in the nations to which they belong, or are of later date, and are referable to intercourse, or conquest, or some secondary and contingent cause. Such an investigation will, at least, greatly aid and confirm the conclusions which we may draw from historical evidence of a different kind as to the history of tribes, and their mutual relations to each other.

I shall now advert to some of the principal instances in which ethnology has been extended through the medium of researches into the affinities of languages confirmed by historical facts.

Nearly the whole continent of Asia and Europe is divided between four great classes of languages ; and in this instance history affords reason to conclude, with great probability, that the affinities of language really mark out as many races or great families of nations. These four sets of languages alluded to are, 1. The Indo-European Languages. 2. The Northern Asiatic, which, for reasons to be explained, I shall term the Ugrian or Tartarian Languages. 3. The Syro-Arabian or Semitic Languages. 4. The Chinese or Indo-Chinese, or the Monosyllabic or Uninflected Languages.

1. The name of Indo-European was first given some years since (by the writer of a review of Adelung's *Sprachenkunde*, in the *Quarterly Review*) to a group of languages which in-

cludes a great many of the principal idioms of Europe and Asia. It may be divided into several different groups. The first group, or the Classical (as it may be termed, for the sake of distinction), includes those languages in which are the chief remains of ancient literature; and these are more perfectly inflected, and have a more complete grammatical construction than the rest. They are three, viz., the Sanskrit, Greek, and Latin, which perhaps resemble each other nearly in an equal degree. The second group in this first class consists of languages very nearly allied to the Sanskrit, viz., the ancient languages of Persia and Media. They are, 1. The idiom in which the Persepolitan and other Persian cuneiform inscriptions are written, so nearly approaching the Sanskrit, that the meaning has been made out through this resemblance. 2. The Zend, in which the Zendavesta, or the Scriptures of the Fire-worshippers or followers of Zoroaster were written, is another language of this group, to which we may add the modern Persian. 3. The next branch, reckoning by the degrees of affinity, to the Sanskrit, is the Old Prussian family, including the Lettish and Lithuanian. The Lettish and Lithuanian are said to resemble the Sanskrit more nearly than any other European dialect; and Von Bohlen, who has written a work on this subject, assures us that he could compose whole sentences in Sanskrit, which would be intelligible to the peasants of Lithuania. 4. The Germanic family constitutes a fourth group. 5. The Slavic or Slavonic, or Sarmatian languages, are a fifth section. They comprehend the languages of the eastern parts of Europe, the Russian, Polish, Bohemian, and the dialects of a great part of the countries in *Europe* subject to the Turkish empire.

I shall now stop to inquire what inferences can be drawn from these philological facts.

We know from history, that the nations above mentioned have been spread, from a remote age, over the regions which they now inhabit. The Teutonic and Scandinavian tribes of the German race were known to Pytheas, on the shores of the Baltic, in the time of Aristotle, and the Brahmans who spoke Sanskrit, to Megasthenes at the court of Palibothra, supposed to be Patna, soon after the same period. All an-

cient Germany, Sarmatia, Italy, Greece, Persia, Media, India, were then inhabited by independent races of people, speaking different languages, but languages strikingly analogous and palpably allied to each other. The question which now occurs to be solved, is, whether these circumstances prove the nations themselves to have descended from a common origin, or admit of any other explanation? Foreign conquests have often introduced new languages among nations; but it is hard to conceive any such hypothesis applicable to the facts now under consideration. If we suppose an Asiatic tribe, speaking any one idiom belonging to this dynasty of languages, to have made conquests ever so extensive in Europe, without leaving any traces in history, which is next to impossible, we could not imagine that they would introduce the German language among the German race, and the Slavonic among the widely-spread natives of Sarmatia, the Greek among the Greeks, the old Italic among the ancient nations of Italy. Any person who considers the nature of that deeply-rooted affinity which exists between these languages, will find convincing proof that their analogies are not engrafted, but spring out of their very fundamental structure. If we take into account the immense extent of the countries over which these nations were spread from so early a period, we cannot refer their affinity of speech to any circumstances accidental and necessarily of restricted and merely local influence. It must have been the result of a gradual deviation of one common language into a multitude of diverging dialects; and the conclusion that is forced upon us, when we take all the conditions of the problem into consideration, is, that the nations themselves descended from one original people, and, consequently, that the varieties of complexion, and other physical characters discovered among them, are the effects of variation from an originally common type.

Besides the languages which I have enumerated as the principal members of the Indo-European family, other groups have been more lately admitted, and some of them appear to be more remotely allied to that stock. One of these is the Celtic language, which was at one time asserted to be entirely distinct, and of separate origin from the Indo-Euro-

pean stock. Their affinity to that stock is now generally admitted, though some persons think that their descent is not genuine, and that they spring from an intermixture of an Indo-European with a more ancient and perhaps an aboriginal Finnish speech. In the east of Europe, the Skippetarians, or Arnauts, or Albanians, the descendants of the ancient Illyrians and Epirots and Macedonians, speak a distinct idiom, which, by Ritter von Xylander, has been proved to be a particular branch of the great Indo-European stem. To the same stem belong the dialects of the Ossetes in Mount Caucasus, supposed to be descended from the ancient Avars, and those of the Lesgians, in the same mountainous region, the Armenians, all the Tájiks or real Persians, and, lastly, the Affghans or Patans, who speak the Pushtú language, and constitute an intermediate branch between the Persians and the Indians, more nearly allied, however, to the latter, but still distinct from both. Thus we find the Indo-European family to comprise nations which are spread—

Omnibus in terris quæ sunt a Gadibus usque
Auroram et Gangen.

2. The dialects which belong to the second great dynasty of languages in both parts of the great continent of the world—for thus we may term Asia and Europe—are not so obviously allied as are those of the former stock. Yet the proofs of their affinity are on the whole sufficiently marked. They are spread abroad more widely even than the former languages, and occupy tracts lying to the northward, eastward, and westward, of the Indo-European countries. It is the opinion of many who have investigated these subjects, that the nations who speak dialects of the Ugrian or Tartarian family, were spread over vast regions of the world before the approach of the Indo-European nations, who drove them out towards the north, and east, and west. When the European nations, at a later period, approached them, they retired into the distant parts of Scandinavia, and in the Russian empire, beyond the Valdai Mountains, or the great Uwalli, a chain which divides the waters falling northward into the Baltic and Frozen Oceans, from those which, by a longer course, find

their way to the Euxine and Caspian. The Valdai Mountains were for many ages the boundary which separated the Slavonic Russians from the people of this second race, who occupied the northern border of Europe and of Asia. The tribes who now belong to this class of nations in Europe, are the Finns, the Lappes, the Magyars in Hungary, and a variety of nations spread through all the northern regions of Russia, from the White Sea to far beyond the Uralian Mountains.

On the high table-land of Asia, other great divisions of people constitute the main part of the Tartarian stock. They are the Turkish, the Mongolian, and the Mantchu-Tartars. It was from this family that all those nations were descended who poured themselves down, during all the middle ages, upon Christendom and the East, who first overran the caliphate and the Asiatic parts of the Byzantine Empire, and afterwards under Tchingis Khan, conquered all the countries intervening between the Sea of Japan and the Danube. The discovery of a real and deeply rooted affinity between the languages of these nations, was a more difficult enterprise than the tracing of relations between the Indo-European languages. The nations of High Asia who belong to this stock, have passed under the general name of Tartars, given to the followers of Tchingis. The tribes of analogous speech in the northern parts of the Russian empire are termed, by the Russians, Tchudes and Ugres or Ogors. Hence the name of Ugro-Tartar, which comprehends the whole family. The writers who have explored the history of these idioms are Dobrowsky, Gyarmathi, a Hungarian, Rask, Vater, Abel Rémusat, and lastly Dr Schott of Berlin. The evidence of affinity between these nations themselves is principally that afforded by their languages. It may, however, be deemed historical, since history affords proofs that no other explanation can be found of the phenomena ascertained to exist, except that of primitive affinity. We must observe, that the connection of these languages is not merely or principally a resemblance of particular words, such as might have been borrowed by one people from another. It is a deeply-rooted affinity in the original elements

of speech, or in the primitive vocables, and a striking analogy in grammatical construction. But beyond all this, there is a singular resemblance in the structure of words themselves. For example, in all these languages that euphonic principle prevails which was first pointed out by Viguier in the Turkish language, and was termed the "quadruple harmony of vowels." According to this principle, only vowels of certain sets can occur in the same word. There are four such sets in the Turkish language, and this law pervades all the dialects of the Turkish race spread from the confines of China to Constantinople. It also prevails in the idioms of the Mongoles and Kalmucks, and in those of the Tungusian and Mantchu Tartars, who are masters of China. It has likewise been noticed in the idioms of the Finnish and Lapponic nations; and Mr Norris, the learned secretary of the Asiatic Society, who is one of the greatest linguists in the world, assures me that it is equally prevalent in the language of the Japanese, which is likewise spoken in the Lieu-kieu islands.

How far towards the west the offsetts of this race extended themselves is as yet unknown. Professor Rask and others have thought the Euskaldunes or Euskarians, or the ancient inhabitants of Spain and the South of France, who are supposed to have occupied those countries before the Celts, might be referred to this stock of nations, but no sufficient proof has been afforded in support of this hypothesis, nor does it appear at all established that the aborigines of Britain were a Finnish race, though this has been conjectured, and is, I believe, the opinion of Dr Meyer, who has studied the Celtic languages and literature more successfully than any of his contemporaries. On this subject I shall say nothing at present, since I hope that we shall soon hear it most ably treated by that learned writer, with some of whose works on the Celtic history I have had occasion to become acquainted. It is no small confirmation of his views to observe that, in many parts of Western Europe, the sepulchral remains of the oldest and most barbarous class of inhabitants display a type resembling that of the round-headed Tartar race. If these facts should be fully determined, we may find hereafter that the old British legend of Gog and Magog is at least true

in a mythical sense. But this subject, though it involves the earliest history of our ancestors, is still involved in doubts which nobody has yet made any serious attempt to dispel, though it is within the reach of historical research.

On the present occasion, I have no opportunity of going fully into the ethnological results which present themselves on considering the history of the Ugro-Tartarian nations. I may just observe, that this survey brings together, and represents as branches of one stock, great tribes of people who differ physically from each other, as the Mongolians with broad lozenge-faced heads, flat noses, and projecting cheek-bones, the various Turkish races, some of whom, as the Kirghises and other eastern tribes, resemble the Mongoles, while the Turks of Stamboul and Roum have a very different physiognomy; the little black-haired reindeer-feeding Lappes, and the phlegmatic fair-haired Finns; and lastly, the proud and lordly Magyars, who have almost a Grecian physiognomy.

3. The third family of nations reckoned among the principal races of the great Continent, are the Chinese and Indo-Chinese nations. They are brought into one department by the resemblance of their languages, all of which consist of monosyllabic words, incapable of grammatical inflection, and likewise by their great physical resemblance and geographical proximity,

4. The fourth great family of nations before alluded to are the Syro-Arabian, or, as German writers term them, the Semitic nations, to which stock the ancient Hebrews and Assyrians, and Syrians and Arabs belonged. The Arabian branch has spread its language over all the countries formerly occupied by these nations. Late researches into the languages of Northern Africa indicate, that the Syro-Arabian stock extended originally much farther into that part of the world than was formerly supposed.

I shall not now attempt to enumerate all the great families of languages or of nations in the world, and perhaps I have already trespassed too long on the time and patience of the Society. I shall sum up what remains to be said in a few

general observations on the principal divisions of the human family.

The languages of Africa are not sufficiently known to be accurately classified or referred to particular groups, which we may consider with any degree of certainty as comprising the whole number. We may, however, reckon several great families. These are, 1. The North-African languages, more or less connected with the Syro-Arabian idioms. To this department are referrible with different degrees of evidence, 1. The Abyssinian languages, the Ghiz, Tigre, and Amhárá languages, and perhaps also the Galla dialects spoken by nomadic nations through an immense space to the southward of Abyssinia, including the idiom of the Somáli on the eastern coast. 2. The Berber, Kabylean, and Shillah languages, which are dialects of the ancient Lybian. Professor Newman, who has studied these languages with greater success than any other person, considers them as a branch of the Syro-Arabian family, correlative with the ancient Hebrew, Phœnician, and Syrian.

A third division in this North-African family is the idiom of the Haúsa Negroes in the inland parts of Africa or Súdán. This language, as Professor Newman has proved, has grammatical affinities to the Syro-Arabian languages.

A second African family of languages, of perhaps equal extent, are the Kafir languages. More or less of affinity, both in words and in grammatical structure, pervades all the known languages of the black woolly-haired nations to the southward of the equator, including all the Kafir nations, the Suaheli on the eastern coast, and the nations of the so-termed Empire of Congo. It must be observed that some of the tribes belonging to this division have Negro features, while others have the Kafir figure and a physiognomy of a very different type.

3. The language of the Hottentots and Bushmen constitutes a third group.

4. The languages of the Negro nations of Western Africa. The most correct enumeration of these languages as yet made, classified according to these vocabularies, is that which

was laid before the Ethnological Section of the British Association by Dr Latham, two years ago, at York.

The languages of America, as yet generally known, belong to one type as far as grammatical structure is concerned, and that a very peculiar one, and strongly marked. It is possible that exceptions may hereafter occur to this remark, and Dr Buschmann, the learned editor of Baron William von Humboldt's posthumous works, who has for several years been employed in preparing for the press a work on the American languages, written partly by William Humboldt, and partly, as I believe, by himself, informs me that he has found exceptions to the general character of these languages, though he does not consider as such the Othomi language which Naxera, a Mexican writer, supposed to be a monosyllabic idiom, and therefore very unlike the polysyllabic and polysynthetic languages, as they have been termed, of America. Several of the learned cultivators of philology, who have done credit to the rapidly increasing literature of the United States, have succeeded in classifying the native languages of North America, and referring them to a comparatively small number of families of great extent. These families are regarded by M. Gallatin as distinct from each other in relation to their vocabulary. Dr Latham, who has attentively studied their vocabularies, is of opinion that there is a greater connection between the different mother-tongues of the American nations, if we may use the expression, than M. Gallatin supposed. On this question I am unable to offer an opinion; but certainly the probability is on Dr Latham's side, since it is very unlikely, though perhaps the fact is not without example, that languages which have so great a similarity in structure as the American idioms, should yet display no proofs of affinity in their vocabulary.

I need not observe that the conclusion to be drawn in regard to the community or diversity of origin between the different American languages, is one very interesting in an ethnological point of view, especially if we take into account the very considerable physical differences which separate

some of the American nations, as the Esquimaux, from the rest.

It is a matter of still greater interest to determine whether the American idioms bear any analogy to those of the Old Continent sufficient to furnish an argument of common origin. It has been observed that the Euskarian idiom, the old Iberian, probably the oldest known language of the west of Europe, has a resemblance in structure to the dialects of the American nations ; and an American writer, Dr M'Culloh, has argued from this fact, that the nations of the New World had an European origin. But there are great diversities as well as resemblances between the Euskarian and the American languages, and nothing certain can be concluded from this argument, which, however, must not be entirely overlooked. It is observable that the races of people in the extreme north-east of Asia, beyond the river Kolyma, are described as differing considerably in physical conformation from the nations of Great Tartary. Very little is known of their languages ; and it might possibly lead to some important discoveries if we could compare these unknown idioms with those of the hunting tribes on the opposite parts of America, particularly the Athabascas, and the nations bordering upon them. It has been long ago ascertained, that one language is common to the two continents, I mean that of the Esquimaux and the Fishing Tchuktchi in Asia, whose idioms certainly belong to the same stock.

In the South Sea there are, as I have observed, several distinct races. The most important of these are the Polynesians, descended from the Malays, from whom they differ physically. The history of the Papua races is very interesting. They resemble, in some particulars, the Africans of the Gold Coast, but differ widely in the shape of their heads from all the Negro races. Some Papua nations, whose idioms have been examined, have been found to speak dialects of the Polynesian language. Among them are the Fijians. We may conclude that they are descended from Polynesians, though probably not without intermixture with people of the black or Papua race.

The Australians constitute a third race in these regions. Their dialects appear, from the researches of Captain Gray, to form a particular family of languages, displaying great varieties, but bearing traces of affinity among themselves, and derived from a common origin. One of the most interesting observations as yet made respecting them is the remark of Mr Norris, who has discovered indications of connection between the Australian dialects and the Tamulian, spoken by the aboriginal inhabitants of the Dekhan.

I have endeavoured to explain what I believe to be the principles on which ethnological research must be conducted, if we would maintain for that study and its results the character of a really scientific and philosophical pursuit. The only certainty that can be obtained in the formation of groups and families of nations, must be founded mainly on historical proofs. We must begin by establishing the historical fact of relationship or consanguinity between tribes of people, before we venture to refer them to one race, or to assert their diversity of origin. The deviations which are known to have taken place within the limits of particular families, are too great to allow us to assume diversity of origin on the mere ground of physical difference; and it is equally obvious, that we cannot assume a near relationship on the simple evidence of physical resemblance.

It would carry me far beyond the limits of the subject of this paper if I were to attempt to sum up any general results, or trace the bearing of facts on the great question of the unity or diversity of human families; but I may be allowed to conclude with this remark, that the farther we explore the various paths of inquiry which lie open to our researches, the greater reason do we find for believing that no insurmountable line of separation exists between the now diversified races of men; and the greater the probability, judging alone from such data as we possess, that all mankind are descended from one family.